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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/337,916	06/22/1999	ARI J. HOURUNRANTA	442-008702-U	9673

7590 11/24/2004
PERMAN & GREEN
425 POST ROAD
FAIRFIELD, CT 064306232

EXAMINER

HOANG, THAI D

ART UNIT	PAPER NUMBER
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2667

DATE MAILED: 11/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/337,916

Applicant(s)

HOURUNRANTA ET AL.

Examiner

Thai D Hoang

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-20,24,25,28-32,34,36,37,39-46,51-54,56,58,59,61-67 and 69-73 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14,18,24-25,28-32,34,36-37,39-42,45,51-54,56,58-59,61-65,70-71 and 73 is/are rejected.
- 7) ☒ Claim(s) 15-17,19,20,43,44,46,66,67,69 and 72 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

The statement "possible" in claim 14 (line 21), claim 17 (line 2), claim 28 (line 2), claim 32 (line 2), claim 34 (line 2), claim 36 (line 2), claim 39 (line 2), claim 42 (line 26), claim 44 (line 3), claim 51 (line 2), claim 54 (line 2), claim 56 (line 2), claim 61 (line 2), claim 64 (line 28), claim 70 (line 2), claim 73 (line 2), the statement "possibly" in claim 14 (line 25), claim 42 (line 31), claim 64 (line 32), and the statement "assumed header portion" in claim 34 (line 4) are unclear what are meant by "possible", "possibly", and "assumed header portion".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 14, 18, 28-29, 31-32, 39-41, 42, 45, 51, 53-54, 61-65, 70 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe, U.S. patent No. 6,310,897 in view of Anderson et al, U.S. Patent No. 6,026,506 hereafter referred to as Watanabe and Anderson respectively.

Regarding claims 14, 31, 42, 53 and 64, Watanabe discloses a method and system for encoding multiplexer/decoding demultiplexer information. Watanabe discloses that the system comprises a demultiplexer 121 performs demultiplexing a

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multiplexed signal, which is multiplexed data packets by a Multiplexer 108; see figures 1-2, 7-8 and 16. The data packets being delimited by framing flags; see data frames in figures 4-6, 14, 25-26, 38. Watanabe teaches that the system comprises the steps of:

Providing framing flags for multiplexing and using framing flags for demultiplexing data packets (PSC and SSC); figures 4-6 (searching for said framing data block from a received multiplex signal and de-framing data packets);

demultiplexing multiplexed data packets into picture information, speech information, character information, and the like by a demultiplexer 121; fig. 1-2, 7-8 and 16; col. 8, lines 28-30 (demultiplexing said one or more data units according to the information in said framing data block);

checking error of the demultiplexed data packets; fig. 2, element 125; fig. 11, element 402 (detecting a possible invalidity of a demultiplexed signal by examining errors encountered while de-framing the data packet units);

Watanabe does not disclose that the method comprises the step of forwarding an error type indication to the decoder during decoding of the demultiplexed signal to enable recovery from the error. However Anderson discloses a method of concealing errors in transport stream data. Anderson discloses that the method provides a quick response to transport stream delivery errors is accomplished by detecting the type of error and thereafter signaling the error type directly to the decoders so that appropriate error concealment can be invoked. According to the reference an error signal is sent to the decoder to allow the decoder to mark the exact point in the stream where the error occurred col. 6, lines 21-36; col. 12, line 64 – col. 13, line 13. In addition, Anderson

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discloses that the transport demultiplexer automatically detects and flags errors in the datastream. This allows the decoders to mask the error and recover without host system intervention; col. 11, lines 18-21. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the method of detecting type of error disclosed by Anderson into the Watanabe's system in order to improve the process of data signal because the system quickly responds correspond to a type of error detected.

Regarding claims 18 and 45, Watanabe does not explicitly disclose that forwarding error location information relating to the demultiplexed video data signal to the video decoder, the error location information indicating the location of erroneous bits in the demultiplexed video data signal. However, Anderson discloses that the method provides a quick response to transport stream delivery errors is accomplished by detecting the type of error and thereafter signaling the error type directly to the decoders; col. 6, lines 21-36; col. 12, line 64 – col. 13, line 13. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the method of detecting type of error disclosed by Anderson into the Watanabe's system for the same purpose as recited in claim 14.

Regarding claims 28 and 51, Watanabe does not disclose that the method comprises the steps of checking for missing video data unit. However, Anderson discloses that The Packet Identification (PID) field data provides packet identification, demultiplexing, and sequence integrity data. The PID field is used to collect the packets of a stream and reconstruct the stream. The continuity counters and error indicators

provide packet sequence integrity and error detection; col. 4, lines 28-34. Furthermore, Anderson discloses that the 4-bit Continuity Counter field is maintained for each enabled PID index to detect any missing data in the payload stream; fig. 2, col. 9, lines 22-25; col. 11, lines 8-13. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the detecting error method disclosed by Anderson into Watanabe's system for the same purpose as recited in claim 14.

Regarding claim 29, Watanabe discloses that the system can detect the error of the packet by checking the validity of the sequence number of the AL-PDU; fig. 37-49; col. 30, line 41- col. 33, line 63 (demultiplexed video data unit is an AL-PDU.)

Regarding claims 32 and 54, Watanabe discloses that the system uses Cyclic Redundancy Check (CRC) to detect illegal bits in the data unit. Watanabe does not teach that an error type indicator is forwarded to a decoder. However, Anderson teaches that the method uses table section CRC32 to detect errors; col. 6, lines 19-21; col. 13, lines 8-11, col. 16, lines 3-5. Anderson discloses that the transport demultiplexer of the invention checks the CRC value of table sections against the value coded in the stream. Those sections that do not pass the CRC check are discarded, and the application optionally notified; col. 11, lines 47-49. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the detecting error method disclosed by Anderson into Watanabe's system for the same purpose as recited in claim 14.

Regarding claims 39-41 and 61-63, the method disclosed by Watanabe comprises the step of detecting a shifted location of the starting point of a demultiplexed

video signal; col. 8, lines 32-33; col. 29, lines 46-59. Watanabe does not explicitly teach that the method comprises the step of forwarding an error type indicator to a decoder. However, Anderson teaches that errors in the incoming transport stream are identified, and forwarded to a decoder; col. 6, lines 21-36; col. 12, line 64 – col. 13, line 13. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the detecting error method disclosed by Anderson into Watanabe's system for the same purpose as recited in claim 14.

Regarding claim 65, Watanabe does not disclose that the video decoder of the multimedia terminal is adapted to use the error type information to conceal errors in the demultiplexed video data signal. However, Anderson teaches this feature; abstract, col. 6, lines 16-26. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the detecting error method disclosed by Anderson into Watanabe's system for the same purpose as recited in claim 14.

Regarding claims 70 and 73, Watanabe discloses that the system uses size information parameter (SQ) during setup frames and de-frames data packets, figs. 4-5 and 9, col. 9, lines 36-39.

2. Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe, U.S. patent No. 6,310,897 in view of Anderson et al, U.S. Patent No. 6,026,506, and further in view of Park et al, US patent No. 6,034,968, hereafter referred to as Watanabe, Anderson and Park respectively.

Regarding claims 24-25, Watanabe and Anderson do not disclose that the framing data blocks comprise an HDLG flag and PN flag. However, Park discloses an

adaptive multiplexing/demultiplexing method. Park discloses that the data frame comprises an HDLG flag and PN flag; see fig. 3; col. 2, lines 1-16 and 30-39. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply HDLC flag and/or PN flag to the system for the same purpose as recited in claim 14.

3. Claims 30 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe, U.S patent No. 6,310,897 in view of Anderson et al, U.S. Patent No. 6,026,506, and further in view of Yamanaka et al, US patent No. 5,878,041, hereafter referred to as Watanabe, Anderson and Yamanaka respectively.

Regarding claim 30 and 52, Watanabe does not teach that the system detects a missing data unit. Anderson teaches that the system detects a data unit missing by checking sequence number; col. 6, lines 22-25; col. 9, lines 22-25, 60-62. Both Watanabe and Anderson do not disclose that an empty data unit is added to the data stream if missing a data unit. However, Yamanaka teaches this feature; see abstract, fig. 3, and col. 2, lines 37-57. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a null cell disclosed by Yamanaka to the Watanabe's system for the same purpose as recited in claim 14.

4. Claims 34, 36-37, 56, 58-59 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe, U.S patent No. 6,310,897 in view of Anderson et al, U.S. Patent No. 6,026,506, and further in view of Anderson et al, U.S. Patent No. 6,072,771, hereafter referred to as '897, '506 and '771 respectively.

Regarding claims 34, 36-37, 56 and 58-59, '897 teaches that the method comprise the steps of checking header portion of the data unit – col. 12, lines 58-60; col. 21, lines 11-27; col. 22, lines 12-15; col. 36, lines 3-7 – and checking the length of the data unit in order to detect errors in the data unit – col. 33, lines 4-12. '897 does not explicitly teach that the method comprises the step of forwarding an error type indicator to a decoder. However, '771 teaches that the MPEG-2 table section syntax provides a section length field to specify the length of the table section. According to Anderson, an error exists when the table section ends before the start of the next table section as indicated by the pointer field; col. 13, lines 30-40. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the detecting error method disclosed by Anderson into Watanabe's system for the same purpose as recited in claim 14.

Allowable Subject Matter

Claims 15-17, 19-20, 43-44, 46, 66-67, 69 and 72 are objected to as being dependent upon a rejected base claim, but would be allowable if overcome claim objections shown above and rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed 06/25/2004 have been fully considered but they are not persuasive.

Page 1 and 2 of the remarks, Applicants argue that *"the error recovery mechanisms used by Anderson's system all seem to rely on discarding erroneous data*

and then interrupting the action of the decoders. This results in a situation where none of the erroneous data is forwarded to the decoders for decoding and limits possible error correction/concealment measures to actions such as freezing or muting of the decoder output until new (error free) data is received. Nowhere does Anderson state explicitly or implicitly that any other, more sophisticated error correction or concealment operation can be performed". Examiner respectfully disagrees. Applicants are directed to col. 11, lines 18-21, wherein Anderson discloses that the transport demultiplexer automatically detects and flags errors in the datastream. This allows the decoders to mask the error and recover without host system intervention.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D Hoang whose telephone number is (571) 272-3184. The examiner can normally be reached on Monday-Friday 10:00am-18:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thai Hoang



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